

Otherwise it will be necessary to await the results of laboratory tests.

If the test results are negative the restrictions imposed may be withdrawn immediately on the instruction of the NDCCC. It may be, however, that the suspicion of foot and mouth disease remains and that a decision is made, following consultation between the Official Veterinarian responsible for the investigation on the holding and the NDCCC, to keep the holding under surveillance and to submit additional tissue and/or blood samples for testing at the NVL.

## **5. CONFIRMATION THE PRESENCE OF FOOT AND MOUTH DISEASE**

### **5.1 Notifications**

Within 24 hours of the official confirmation of the first outbreak of foot and mouth disease the EU Commission and the other Member States will be officially informed of the outbreak. The Community Animal Disease Notification System (ADNS) will be used for such notifications, which will be made in accordance with Council Directive 82/894/EEC and Commission Decision 84/90/EEC Annex I of the Directive 84/90/EEC).

The NDCCC will prepare the information for the notification, which must include at least the following details:

- the date on which foot and mouth disease was suspected;
- the date on which foot and mouth disease was confirmed;
- the methods used for confirmation;
- the location of the infected holding;
- its distance from the nearest holdings with susceptible stock;
- the number of susceptible animals of each species and category on the holding;
- the number of animals of each species and category in which foot and mouth disease has been confirmed;
- the morbidity of the disease.

Notification will be made to the O.I.E. within 24 hours of the first outbreak.

Relevant national and local agricultural and veterinary organisations will also be notified directly that FMD has been officially confirmed. Media announcements will be made as appropriate.

Prominent notices will be erected indicating that the holding is infected with FMD.

### **5.2 Establishment of a LDCCC**

As soon as FMD has been confirmed, the NDCCC arranges the establishment of a LDCCC in the relevant LSFVS and supplies it with all the veterinary, technical and administrative manpower and whatever other resources are necessary to achieve the control and eradication of the disease as quickly and efficiently as possible.

Within the LDCCC a surveillance map will be prominently displayed showing the locations of all holdings with susceptible animals in the protection and surveillance zones with an indication of the number of each species on each of them. The map will be amended daily to show the progress being made with the surveillance exercise and with the control and eradication campaign in general.

The veterinarian in charge of the LDCCC will brief the staff of the Centre daily on the progress being made and on any problems being encountered, and will make a similar report to the NDCCC.

In details the veterinarian in charge of the LDCC has to:

Inform the owner that disease has been confirmed, that the Prime Minister intends to use his powers to slaughter the animals with all practical speed, and that until slaughtered they remain the property of the owner who is responsible for the feeding and tending of them .

Sign report, as instructed, to extend the area of emergency restrictions.

Telephone the Senior Officer of the Milk Processing Association in whose area the infected farm is located. This contact should be made immediately (day or night) and the following information supplied:

Name of owner and address of Infected Place (including any contacts).

Whether the owner is a milk producer of a pig keeper feeding skim or whey.

The extent of the Infected Area if known (i.e. radius from the outbreak).

The telephone number and addresses of the FMD Centre when known.

In the case of restrictions the names and addresses of premises subject to those restrictions within the Infected Area and those outside the Area if known.

Inform the DVO of confirmation of disease so that valuation, slaughter and disposal arrangements can be organised.

Arrange if necessary for the spraying of the surface of any roads adjacent to the Infected Place: then spray any yards and private roads leading to contaminated buildings and lastly the interiors of those buildings with an approved FMD disinfectant. The importance of pre-slaughter spraying cannot be over emphasised. (See paragraph for suitable disinfectants.)

Take all necessary precautions to prevent the spread of disease by drainage.

Where such a risk exists the drains must be plugged and the material held back and disinfected before being released. If it appears that slurry pits, lagoons, etc. have not been contaminated with the virus, appropriate steps should if possible be taken to ensure that contamination does not occur during preliminary disinfection and slaughter. Further advice will be available from the Expert Group when it arrives.

Arrange for poultry, cats and dogs on the Infected Place to be confined. (It may sometimes be advisable to ensure that poultry and animals in neighbouring premises also are confined so that they cannot stray into the Infected Place.)

Arrange for any "Keep Out" notices to be removed and for "Infected Place", "Footpath Closed" and "No admittance" posters to be displayed where necessary.

Instruct the occupier of the Infected Place or his agent, that the Rules applicable to the Infected Place must be strictly observed. The occupier should also be handed a copy of form of an Infected Farm.

Check the electrical installation on the farm. In all cases where this appears makeshift, homemade, or where there is any doubt about its safety, have the electrical installation checked by a qualified electrician before disinfection (other than preliminary spraying) is commenced.

The physical state of the premises must be assessed to identify possible difficulties in cleansing and disinfection.

Arrange for the veterinary surgeon in charge of any artificial insemination centre affected by the declaration (or extension) of the Infected Area to be notified immediately by the most expeditious means of the outbreak and for

this notification to be confirmed in writing with a copy to the NDCCC.  
Ensure that veterinary practicing in the Protection Zone are notified of the outbreak by telephone and confirm this by follow-up letter (they must also be notified of all subsequent outbreaks in the Area).  
Nominate the VO who is take charge of the Infected Place.

### 5.3 Valuation of susceptible animals on the infected holding

The owner of the infected holding or the owner's representative will be served with an official notice in writing indicating the intention to kill all the susceptible animals on the holding.

Before valuation and killing start any public roads immediately adjacent to the infected holding, yards, roads and pathways on the holding and the interior of any contaminated buildings should be sprayed with disinfectant approved for use against foot and mouth disease.

Dogs, cats, and poultry on the infected holding and on adjacent holdings should be confined.

#### Rats on an Infected Place

Immediately on confirmation of foot and mouth disease the DVO or the officer in charge of the Centre should make an assessment of rat infestation.

If evidence of rat infestation is found, rat control measures should be taken if «3possible before the environment of the rats has been disturbed by preliminary disinfection and slaughter. If pest operators are not available the DVO should make preliminary contact and arrangements with either a colal authority Department or a commercial rodent control firm.

The operators should warn the farmer about the possible danger to dogs and cats of certain rat poisons.

Arrangements should be made for a second visit to the Infected Place after the preliminary disinfection has been completed to check the need for return visits by operators to replenish poisonous baits laid at the first visit.

Immediately after the confirmation of an initial outbreak in the Protection Zone whose farms are not infected should take action if rats are present in substantial numbers.

Action taken with regard to rat infestation should be reported on when submitting the preliminary report.

It is important that rodent control activities do not delay necessary procedures on the Infected Place.

#### Hedgehogs on an Infected Place

The officer in charge of the Centre must ensure an enquiry is made to ascertain whether hedgehogs are common in the vicinity and whether there has been any unusual mortality among them.

If possible hedgehogs found in the vicinity of an outbreak should be destroyed.

The most satisfactory way of killing hedgehogs is by means of chloroform in a confined space.

## Valuation

Valuation of the animals on the holding will normally be carried out before they are killed. No compensation will be paid for animals that die before killing starts; but payment will be made for animals killed for diagnostic purposes.

Valuation will be carried out, either before or after killing by an Official Veterinarian from the LDCCC or by a committee appointed by the DVS according to the Law on Veterinary Activities. An appeal procedure exists to deal with disagreements about the valuation of livestock;

In any event valuation or problems arising from the valuation will not be allowed to delay the killing of all susceptible animals on the infected holding.

## Permits to enter or leave an Infected Place.

The number of permits issued must be kept to an absolute minimum; apart from those necessary for the conduct of operations on the Infected Place, they should not be issued except in cases where, on investigation, they appear to be essential. They should not be issued before completion of the preliminary disinfection except in cases of extreme urgency e.g. a visit of a doctor. The closest cooperation of the occupier of the Infected Place must be sought and arrangements made for tradesmen, postmen and other regular visitors to leave their goods or messages with the inspector in charge at the main entrance. School children should normally be allowed to return to school as soon as the preliminary disinfection has been completed. Appropriate disinfection must be carried out by any person leaving the Infected Place.

The VO in charge must himself issue all permits until disinfection has been completed; they may then be issued either by the VO in charge or he may delegate this to the police guarding the premises.

Each permit to enter or leave an Infected Place should be completed in triplicate and may include as many names as required. The top copy should be handed to the person named in the permit or to the person in charge of the party if more than one person is named, the second to the inspector on duty at the entrance to the Infected Place and the third copy retained by the VO. Additional conditions may be included if necessary.

Persons on the Infected Place at the time of confirmation of disease and who live elsewhere should not be allowed to leave in the outer clothing they were wearing at the time; arrangements should be made for messages to be sent to their homes so that they can obtain fresh clothes, into which they should change before they are permitted to leave. The outer clothing they were wearing must be disinfected before being returned to them.

Employees of the public services may, in an emergency, be granted a permit to enter an Infected Place to carry out urgent work. The officer in charge should render all possible assistance including, if necessary, the provision of overalls, so that necessary work may be carried out without delay.

## 5.4 Killing of the animals on the infected holding

1. Before killing starts arrangements must be made by the Official Veterinarian and/or by the LDCC for the safe disposal of the carcasses; but nothing should be allowed to delay the killing of all susceptible animals as soon as possible after the confirmation of foot and mouth disease on the holding, with priority being given to the killing of those showing clinical signs of the disease.

2. In killing animals for the purpose of controlling FMD account must be taken of their welfare, and the provisions of the Law on the Care, Keeping and Use of Animals, VIII-500, 6 November, 1997 and of Council Directive 93/119/EC on the protection of animals at the time of slaughter or killing must be carefully followed.

3. Killing may be by:

Stunning with a penetrating captive bolt, followed by the use of a pithing rod to ensure that the animal is dead;

Shooting with a free bullet;

Electrocution (suitable for small ruminants and pigs);

Lethal injection (for small numbers of animals of all species and for large numbers of very young sheep, goats or pigs).

4. Animals should be killed as near as possible to the place in which they are normally kept. If the subsequent removal of the carcasses from the houses is likely to be a problem, the animals must be removed to be killed outside, if necessary in a temporary stockade erected for the purpose. Animals at pasture should be rounded up to be killed in existing pens or in a temporarily erected stockade. Wherever possible animals should be killed in an area that will be easy to clean and disinfect after the completion of killing.

5. Killing should be carried out by licensed slaughter men except in the case of killing for diagnostic purposes or the killing of clinically affected animals to prevent spread of the infection if killing is likely to be delayed. In such circumstances killing may be carried out by an experienced Official Veterinarian.

6. For animals that are fractious, dangerous, or otherwise difficult to handle it may be necessary to administer a tranquillising drug by direct injection or by dart gun prior to killing.

7. Killing should be carried out as quickly as possible in order to minimise the risk of dissemination of the foot and mouth disease virus. Because of their potential for the production of very high titres of the virus, pigs should be killed first, followed by cattle, then sheep and goats.

8. In the case of single species holdings or holdings with large numbers of animals, those animals showing clinical evidence of foot and mouth disease should be killed first, followed by those most likely to have been directly or indirectly exposed to infection from the earlier cases.

9. It will be necessary, as part of the epidemiological enquiry, to examine carcasses, to make an estimate of the age of any lesions present and, possibly, to collect further tissue and blood samples at the time of emergency killing. Guidance on any such action will be given by the Expert Group and the NDCCC. It is particularly important, in the early outbreaks in an epidemic, to obtain as much epidemiological information as possible.

10. To reduce the risk of contamination of the equipment and the environment the heads and feet of clinically affected animals should be covered with plastic bags after killing and before their removal for disposal. Carcasses should also be sprayed with disinfectant.

11. The officer in charge of the Centre must provide sufficient numbers of VOs to ensure that adequate supervision of slaughter by humane methods is constantly maintained. Slaughter men must be instructed not to commence slaughter until the VO present.

12. Normally one VO should not be expected to be responsible for more than three slaughter men and a VO should always be present at each slaughter site.

13. Slaughter operations should be arranged with a view to slaughtering during the hours of daylight.

If slaughtering after dark is considered necessary it should only be undertaken if adequate lighting is available.

14. An adequate number of slaughter men and assistants should be available to ensure that there is no delay in completing the slaughter and the pithing of animals.

15. Before leaving the infected place or before carcasses are moved for disposal the VO in charge must be satisfied that all animals, which have been slaughtered, are dead.

16. Slaughter men must always be supplied with protective clothing and rubber boots.

17. After completion of killing and disposal of carcasses, reports must be completed and forwarded to NDCCC without delay. The times of commencement and completion of killing, burial or cremation should be annotated on Form FM. 15.

#### 18. Procedure for arranging slaughter

a. Competent slaughter men should be employed at the prevailing national rates. Slaughter men should be specially selected for their efficiency and their ability to carry out the arduous duties inherent in foot and mouth disease.

b. VOs are not to undertake the slaughter of animals except in cases where:

It is desirable for an affected or suspected animal to be destroyed in order to minimise the risk of spread of disease, or competent slaughter men are not available or, the NDCC has instructed animals to be slaughtered for diagnostic purposes.

#### 19. Slaughter of cattle

a. The weapon of choice should be the captive bolt pistol using heavy type cartridges. Pithing must follow this. On rare occasions circumstances may require that an other weapon is used. The appropriate strength cartridge, according to the age of the animal being slaughtered should be used.

b. When cattle in the building are to be slaughtered bulls should always be slaughtered first. On the whole if animals are indoors it is better to slaughter them where they are, and affected animals should certainly not be taken outside for slaughter. If it is considered necessary to take non-affected animals out of buildings for slaughter it is advisable to use a suitable crush and slaughter crate.

c. When slaughtering animals indoors it is important to remember that considerable post mortem bloat and rigor mortis occurs and that this will make removal through narrow doorways difficult.

#### 20. Slaughter of sheep

a. Adult sheep. The VO in charge of the infected place will decide on the best method of slaughter. A captive bolt using the appropriate strength cartridge is best. If the animal is shot in the frontal or

parietal region the use of a pithing rod though difficult is essential. It is also possible to shoot sheep behind the occipital bone so that the bullet or bolt destroys the medulla.

b. Young lambs. The use of lethalising drugs is recommended. Intracardiac or intraperitoneal injection of pentobarbitone (1 ml per 1.5 kg) is the method of choice.

## 21. Slaughter of pigs

a. Sows and boars. Electrical stunning devices are available in each LDCC. A long-bolt type of captive bolt pistol is suitable. Again the animals should subsequently be pithed.

b. Medium size pigs. The captive bolt pistol is the weapon of choice, followed by the use of the pithing rod.

c. Small pigs. The use of lethalising drugs is recommended. The method of choice is identical to that for young lambs.

## 22. Tranquillisers

Where necessary, VOs may use tranquillising/ immobilising drugs. These would normally be used for:

the immobilisation of bulls or other fractious stock prior to slaughter; handling and restraint of indoor fractious stock for diagnostic purposes where no reasonable restraining facilities or assistance are available; the restraint of nervous or fractious animals outdoors for diagnostic purposes, particularly when there is danger of escape of such stock into neighbouring premises. In these cases, the services of a VO trained in the use of the dart pistol should be used.

23. DVO as part of their contingency planning should be aware of veterinary staff licensed to use dart guns in case their services are needed.

24. In instances referred to in paragraph 22 above, the permission of the owner, or of a person entitled to act on his behalf, must be obtained before an animal is tranquillised. It is reasonable to expect that an owner will give his consent when it is apparent that injuries to persons or animals might otherwise result. It is necessary to administer tranquillisers in the owner's absence he should be advised as soon as possible. Should accidents or claims by owners arise the VO must submit a written report via to the DVO. A copy of the report must also be sent to the NDCC.

25. The choice of drugs are Rompun-Xylazine, T61 or other drugs and supplies of these-drugs are already available at DVO's.

26. VOs engaged in diagnostic visits at FMD centres should discard part-used bottles of tranquillisers in order to eliminate any risk or criticism of cross-infection. 5.5 Disposal of carcasses

1. Because of the highly infectious nature of foot and mouth disease it is preferable to dispose of the carcasses on the infected holding, if possible by burial or, failing that, by cremation.

2. The dimensions of a burial pit large enough for 20 adult cattle carcasses or 60 pig, sheep or goat carcasses with a 2 m. cover are: length 6 m.; width 3 m.; depth 4 m.

3. To prevent carcasses in a burial pit from rising to the surface, the abdomens should be cut open before burial to allow gases to escape from the alimentary tract and the abdominal cavity.

4. A check must be made on whether burial is excluded by the nature of the land, in particular the level of the water table, by proximity to watercourses, by other environmental factors or by legal prohibitions. The burial sites should clearly marked on a map held in the LDCC. Details of the map references must be forwarded to the NDCCC. If burial is not possible, cremation should be considered, and enquiries made regarding any possible environmental problems. If cremation is an alternative solution, tyres should not be used.

5. If there is no alternative to the removal of carcasses from the holding to a site as near as possible to it for disposal by burial, cremation, incineration or rendering the handling and transportation arrangements must be such as to guarantee that no dissemination of the virus will result.

In particular:

Carcasses should be sprayed before removal with a disinfectant active against the virus of foot and mouth disease or with 0.2 % citric acid. The vehicles used to transport the carcasses must be completely drip-proof, covered and sealed.

Each vehicle, including the driver's cab, the exterior and the wheels, must be thoroughly cleaned and disinfected after loading and before leaving the infected holding.

The vehicles will avoid stopping between the infected holding and the place of disposal of the carcasses, and will follow an approved route which, as far as is possible, avoids passing close to holdings with susceptible animals.

Each vehicle must again be thoroughly cleaned and disinfected before leaving the disposal site.

#### 5.6 Destruction of material

1. Any meat or of susceptible species, animal feed, utensils, objects and other materials, such as wool, animal waste or rejected matter, likely to have become contaminated and, therefore, potentially capable of transmitting FMD will be seized and destroyed or treated, in accordance with the instructions of the Official Veterinarian, in such a way as to ensure the destruction of any FMD virus present. Articles or materials to be destroyed will be valued and compensation will be paid.

2. The carcasses of any susceptible animals that have died on the holding will be destroyed, under official supervision, in such a way as to avoid any risk of spreading the virus of foot and mouth disease.

#### 2. Milk and milk tankers

When it is necessary to dispose of milk or milk products produced on an Infected Place they must first be rendered safe by the addition of 500 gms of citric acid or sulphamic acid to every 240 litres of milk i.e. 0.2% solution. As an alternative 1.5 litres of ortho-phosphoric acid technical grade can be added to every 500 litres of milk i.e. 0.3% solution.

If the milk from the Infected Place has been loaded into a milk tanker adequate mixing of the acid can be achieved at the dairy by "disc plunging", a procedure normally used in order to mix bulk milk prior to sampling, or, alternatively "circulation pumping" which is used when cleansing a milk tanker. The milk and added chemical should be retained in the tanker after mixing for at least 30 minutes to allow for inactivation of any virus present.

The disinfected milk should be disposed of on the infected farm or, if it has left the farm, in accordance with arrangements made with the local authority, e.g. into refuse tips, sewage system. When disinfection of a milk tanker which has transported milk from Infected Premises becomes necessary, 0.2% citric acid, 0.3% ortho-phosphoric acid or 0.2% sulphamic acid solutions plus suitable detergent are the disinfectants of choice. If the tanker is fitted with an air filter, the filter must be disposed of.

4. The meat of susceptible animals from the infected holding slaughtered during the period between the probable introduction of the disease and the imposition of movement controls will, if possible, be traced and destroyed under supervision so as to ensure that there is no risk of spread of the virus of foot and mouth disease .

#### 5.7 Further epidemiological enquiry

Following the confirmation of infection with foot and mouth disease further intensive epidemiological enquiries will be made in order to be certain that appropriate control measures are in place on all other holdings on which the stock may have been exposed to the virus of foot and mouth disease. This enquiry is the specific responsibility of the Expert Group .

During the enquiry all the necessary back and forward tracings form should be carried out with the aim of identifying previously undetected sources of infection and holdings which may have been put at risk by direct or indirect exposure to the virus of foot and mouth disease. Exposure to infection carried by visitors should not be ignored during such an enquiry, and blood samples should be taken, and repeated if necessary, to confirm the status of herds about which there is any doubts. It is essential to detect outbreaks as early as possible in order to minimise the dissemination of the infection.

#### 5.8 Cleaning and disinfection

Cleaning and disinfection should be started as soon as the susceptible animals have been killed and removed from the holding and must be carried out in a methodical way.

The Official Veterinarian in charge of the infected holding should draw up a plan of action for cleaning and disinfection and should supervise all stages of the operation.

Prior to the start of the operation a note should be made of any damage to the fabric of the buildings and equipment, which are to be cleaned and disinfected. This will indicate areas, such as cracked floors and walls or loose fittings, which will require special attention; and will also give an inventory of existing damage to the premises so that subsequent claims for compensation arising from these official activities may be more easily dealt with. In addition a check should be made that the electrical installation are safe, and unlikely to be made unsafe by the use of washing water. Electricity and water meters should be read so that the owner may be paid for the resources used.

Hedgehogs can be active carriers of the virus, and any on or near the infected holding should be trapped and humanely killed.

If practicable the drains should be blocked to prevent contaminated effluent and potentially environmentally damaging material running off into the drainage system.

Cleaning and disinfection are carried out in two parts as follows.

## 5.9 Preliminary cleaning and disinfection

The parts of the holding in which susceptible animals were housed and any other parts of the holding, such as buildings or yards, which may have been contaminated by the movement of susceptible animals or during killing or post mortem examination, should be sprayed with a disinfectant officially approved as effective against the virus of foot and mouth disease.

Any tissue or blood which may have been spilled during killing or post mortem examination or gross contamination of buildings, yards or equipment should be carefully collected and disposed of in such a way as to make it safe, preferably to the same destination as the carcasses.

The disinfectant used should remain on the surface for at least 24 hours.

## 5.10 Final cleaning and disinfection

1. Grease and dirt should be removed from all surfaces with a degreasing compound and washed with cold water.

2. The surfaces should then be sprayed again with an approved disinfectant.

3. After seven days the premises should be treated again with a degreasing compound, rinsed with cold water, sprayed with approved disinfectant and rinsed again with cold water.

4. Manure and used bedding should be stacked, sprayed on the surface of the stack with approved disinfectant, covered and left to heat for 42 days.

5. Slurry should be stored for at least 42 days, longer if it is believed to have been heavily contaminated. Decontamination of slurry can be aided by the addition to it of sodium hydroxide to raise the pH. Slurry lagoons should remain undisturbed for three months.

6. Disinfectants active against foot and mouth disease that may be used include:

**CITRIC ACID IN 0,4% SOLUTION.** The solution can be prepared by dissolving 30 gms of crystals in 15 litres of water. Alternatively a 10% solution may be prepared by dissolving 500 gms of crystals in 5 litres of water and further diluting, as required for use, at the rate of % litre in 12% litres of water. This stock solution should not be kept for longer than 2 weeks. Before use the container should be as sterile as possible and should be airtight otherwise the stock solution may be attacked by moulds or bacteria, which reduce its efficiency.

**SULPHAMIC ACID IN 0,2% SOLUTION.** Sulphamic acid is supplied in crystalline form and is stable on storage. 30 gms of the crystals in 15 litres of warm water should be used for disinfection of equipment. 500 gms of crystals in 240 litres of milk may be used to destroy the virus in bulk milk containers or tankers, if the procedures detailed in paragraphs 1.31-33 are followed.

Sulphamic acid has less effect on metals than other mineral acids and may be used safely at the approved dilution- for the disinfection of metals, painted surfaces, plastics and rubber. Exposure for 5 minutes to the 0.2% solution is adequate for destruction of the foot and mouth disease virus after which the equipment should be well flushed with water.

**OTTHO-PROSPHORIC ACID, TECHNICAL GRADE IN 0,3% SOLUTION.**

Add 15 ml of acid to 5 litres of water and stir.

**WASHING SODA (SODIUM CARBONATE) IN 4,0% SOLUTION.** Dissolve 500 gms of crystals in 10 litres of hot water (Referred to as "soda solution" in the manual).

FORMALIN (CONTAINING NOT LESS THAN 34,0% FORMALDEHYDE) IN 10,0% SOLUTION. For use as a disinfecting solution add one part of formalin to 9 parts of water and stir. When a spray is required (e.g. when it is necessary to disinfect feeding stuffs) a 5% solution is adequate and this is referred to as "formalin solution" in this manual.

FORMALDEHYDE GAS may be used as fumigant. This is produced by the action of formalin (not formalin candles) on potassium permanganate. See paragraph L8 below.

PROPRIETARY BRANDS. Container labels will indicate that they are approved for use against foot and mouth disease and will state the approved rate of dilution.

The effectiveness of the solutions in 1 .a,b,c & d above is improved by the addition of a small quantity of suitable detergent. Not more than 15 ml of a detergent such as household washing-up liquid may be added to each 5 liters of solution.

Soda solution may corrode metal and damage painted surfaces and for these items citric acid solution (plus a suitable detergent) is preferred.

The virucidal activity of the acid or alkali disinfectants is dependent on the hydrogen-ion concentration (pH) at the recommended dilutions in water.

When disinfectant solutions are prepared in accordance with paragraph ... above the readings will be as follows:

Citric acid and

Less than pH 4

Ortho-phosphoric acid /

Sulphamic acid less than pH 6

Sodium carbonate more than pH 10

A simple method of assessing the required hydrogen-ion concentration (pH) is by the use of the narrow Range Indicator Paper Strips. The assessment can be carried out by dipping a piece of the indicator strip into the disinfectant to be tested, then laying the wetted strip on a tile or other white non-absorbent surface and after 30 seconds comparing its colour with the colour chart shown on the dispenser. Random checks on the pH of acid or alkali disinfectant solutions using the indicator strips should be carried out during the course of disinfection operations.

Indicator strips complete with dispensers (i.e. 2 for the pH range 2-4 and 2 for the pH range 8-10) are included in the emergency foot and mouth disease stores at each Country Office.

Because acids and alkalis depend on pH for their efficacy it is important that they are not mixed. Surfaces which have been treated with one should not be subjected to the other unless there has been an intermediate washing down with water.

Where formaldehyde gas is to be used to fumigate a room or building the place must be made reasonably airtight. For every 50 cubic metres of space to be fumigated, 660 gms of potassium permanganate and one litre of formalin (40% formaldehyde solution) are necessary. The potassium permanganate must be placed in an open metal or earthenware container (not plastic lined) and the formalin added just before the room or building is closed. Not more than 1 litre of formalin may be used in any one container. The gas should be allowed to act for as long as possible - at least 10 hours.

## 7. Safety precautions

- a. All workers engaged on disinfection must wear rubber boots, overalls, goggles and head covering as protective clothing.
- b. The officer in charge should ensure that staff employed on fumigation or spraying with formalin solution wear full protective clothing and if spraying is being carried out in a confined space that goggles and masks or respirators are worn. Staff should also wear goggles when handling mixing or spraying acid or strong alkalic solutions and ensure that any concentrated solution splashed on the skin is washed off immediately. Always add acid to water -never water to acid. A solution of sodium chloride - 9 grammes, or boric acid - 10 grammes, in 1 litre of distilled water should be kept immediately at hand for the treatment of splashes on the skin or the eyes. Any splashes should be immediately flushed with one of the solutions or with plenty of clean water and the treatment continued for at least 15 minutes.
- c. Faulty electrical installations can be a serious potential hazard for persons engaged in cleansing and disinfection of infected premises. Where premises with sophisticated electrical installations are to be disinfected arrangements must always be made for an inspection and assessment by a qualified electrician.

## 8. Completion of disinfection

When the final disinfection has been completed the VO in charge of the work must complete perort. The officer in charge of the Centre must then inspect or arrange for the DVO to inspect the Infected Place, including the burial pit or cremation site, and, if he is satisfied that the disinfection has been adequately carried out, countersign and forward to the NDCCC. At the same time the countersigning officer should confirm that all tools, sprayers, overalls, drums, humane killers and other official property have been returned to store or can be accounted for. If any property is missing every effort must be made to recover it.

### 5.11 Preventive killing

The official veterinary service may apply the measures for dealing with a confirmed infected holding (valuation, killing, disposal of carcasses and other contaminated materials, cleaning and disinfection) to other holdings on which susceptible animals may have become infected as a result either of their location or direct or indirect contact with the infected holding, even though they show no clinical signs of foot and mouth disease.

When preventive killing is carried out, random sampling and laboratory testing of the animals will be carried out for epidemiological purposes.

### 5.12 Derogation for separate production units

In the case of holdings, which contain two or more separate production units the official veterinary service may derogate healthy production units on an infected holding from the requirement to kill the susceptible animals and to dispose of their carcasses on condition that the Official Veterinarian has confirmed:

- a. That all the susceptible animals on these production units have been clinically examined and found to be free from evidence of foot and mouth disease.

b. That the structure and size of these production units and the arrangements on them are such as to provide completely separate facilities for housing, care and feeding of the animals.

c. That these production units are structurally completely separate from, and with no communication or common air space between, those which contained infected animals.

d. That they have separate stores for equipment, feed, effluent and other waste and, where appropriate, milk.

e. That they have individual disinfection facilities at entrances and exits.

f. That they have their own personnel.

g. That there has been no exchange between infected and healthy units of: machinery; equipment; animals; animal products; animal feed; utensils; objects; waste material or any other article or substance liable to transmit the virus of foot and mouth disease.

2. This derogation may also be extended to holdings producing milk provided that milking in each unit is also carried out completely separately.

The Commission will be informed if this derogation is applied.

#### 5.13 Further report on the outbreak

As soon as possible after the initial report to the EU Commission and to the other Member States in accordance with sub-section 5.1 a further report will be sent giving details of the date(s) on which the animals on the infected holding were killed and their carcasses disposed of.

If the derogation referred to in sub-section

5.12 has been applied, details of the number of animals to be killed at a later date and the time limit for killing them will be included in the report.

Any available information regarding the epidemiology of the outbreak and the known or possible origin of the infection will be given at the same time.

Information, as required in sub-section 5.1 and in this sub-section, will similarly be provided in respect of each subsequent outbreak of foot and mouth disease until the number of infected holdings and the dispersion of the disease show it to be extensive.

Regular detailed reports on the outbreaks will be made to the Standing Veterinary Committee.

## 6. ESTABLISHMENT OF PROTECTION AND SURVEILLANCE ZONES

### 6.1 General

1. As soon as the diagnosis of foot and mouth disease has been confirmed on a holding the official veterinary service will establish a protection zone with a minimum radius of at least three kilometres around the infected holding. The protection zone will be within a surveillance zone with a minimum radius of at least ten kilometres around the infected holding. The controls listed below as applying to those zones are in addition to those that are listed above in subsection 4.1 and that, on confirmation of foot and mouth disease, are extended to apply to all holdings with susceptible animals in the control zones.

The zones may be increased in size in accordance with the epidemiological data gathered during the enquiry and their size will also take account of other factors such as:

- the risk of airborne dissemination of the virus;
- natural and other boundaries in the area;
- other geographical features;
- the location and proximity of holdings with susceptible animals in the area;
- patterns of trade in animals in the area;
- the availability of slaughterhouses;
- the checks employed and the facilities for carrying them out.

All necessary measures will be taken, including the use of prominent signs and warning notices on roads and the use of the national and local media, such as newspapers and television, to ensure that all persons in the protection and surveillance zones and any persons who might wish to visit those zones on business connected with the livestock industry are fully aware of the restrictions in force (see sub-section 6.2).

Measures will also be taken, including the use of the police as appropriate, to ensure the strict enforcement of the control measures in the protection and surveillance zones.

## 2. Publicity and Advice

a. Notification to Veterinary Surgeons in a Protection Zone. On confirmation of disease, and as soon as the address and telephone number of the N.D.C.C. is known, a telephone call should be made and a confirming letter subsequently despatched from the District Veterinary Office to all veterinary surgeons known to be practising in the Protection Zone. A copy of the poster and a small supply of Leaflet should be enclosed.

b. FMD booklet The FMD booklet "A Guide to Farmers in an Infected Area" has been designed as a guide or Code of Practice to farmers. Immediately following confirmation of disease the booklet will be distributed to all agricultural holdings in the protection zone.

c. Leaflet may be handed to owners on request.

d. Poster - A poster should be exhibited throughout the Protection Zone on police notice boards and at village halls, libraries, post offices, etc. The assistance of the police and local authorities should be sought to distribute the posters.

e. Signposting of roads. Arrangements should be made with the local authority to erect the notices on roads at appropriate points. Arrangements should be made to return these to store as soon as the protection Zone restrictions are lifted.

f. Persons resident on a farm in a Protection Zone should avoid coming into contact with any other farm animals and should refrain from going into fields or premises where such stock may be driven later. Before leaving the Protection Zone they should:

- Disinfect all footwear used;

- Wear clothes which have had no possible contact with farm stock - if there is any doubt the clothes should be dry cleaned;

- Wash with plenty of hot water and soap, not forgetting the hair;

- Disinfect the outside of any item that may have been in contact with other

articles in general use on the farm.

### 3. Visits by officials to Premises in a Protection Zone

a. By veterinary staff. Any routine duties (inspections of dairy herds, tuberculin testing, visits to farms in relation to Brucellosis duties) must be suspended.

b. By the other officers of the SFVS. The DVO should pass on the instructions to the officers concerned.

c. By non- SFVS officials

Visits to farmers should be suspended unless absolutely essential. Officers of the authorities such as water, electricity, telephone, land survey etc are not permitted to visit the premises within the protection zone for one week following the outbreaks. Permission to resume visits to premises situated in two km radius around the infected place should be requested from the District Veterinary Officer. On the other hand if outbreaks continue to occur, it may be necessary to suspend visits for a considerable time.

### 4. Military authorities in a protection zone

No land within or adjacent to the protection zone should be used for training exercises or manoeuvres. If movement in or through the protection zone is essential vehicles and personnel will be confined to roads and will observe any restrictions imposed by the SFVS. The NDCCC will be consulted about the use of land entirely under the Military Service control e.g. firing ranges, and if livestock cannot gain access to it, permission for its use can be given.

When an outbreak of FMD has been confirmed, the DVO must inform by telephone all appropriate Military Service personnel contacts and they will be responsible for notifying the various units likely to be concerned. Messages must give the name of the stock-owner concerned, the address of the Infected Place, together with the full national grid reference and the extent of the Protection Zone.

### 6.2 Controls in the protection zone

In the protection zone, (in addition to those listed in sub-section 4.1), the following measures will be carried out:

a census will be made of all holdings with susceptible animals as soon as possible;

if practicable susceptible animals will be housed or otherwise confined;

all these holdings will be visited periodically by an Official Veterinarian with the purpose of:

discovering unreported foci of infection;

confirming the location and numbers of susceptible animals;

advising owners about the controls, the precautions to be taken, the

symptoms of foot and mouth disease and the importance of prompt reporting suspected disease;

collecting surveillance samples of blood and/or milk if requested by the Expert Group.

the movement and transport of susceptible animals on public or private roads will be prohibited;

any movement of dead animals within the protection zones is prohibited unless preceding official veterinary permission;

the transit of susceptible animals through the protection zone, on main roads designated by the NDCCC, without stopping or unloading will be permitted without prior approval .

susceptible animals will not be permitted to leave the holdings on which they are kept for the first 15 days after the imposition of the protection zone;

as an exception to the above measure susceptible animals may be transported directly, under official authorisation and supervision, for emergency slaughter to a slaughterhouse within the zone or to a slaughterhouse, designated by the official veterinary service, outside the zone, provided that an Official Veterinarian has clinically examined all the susceptible animals on the holding and has found no signs indicating the possible presence of foot and mouth disease;

all itinerant service for breeding will be prohibited;

artificial insemination will not be permitted during at least the first 15 days after the imposition of the zone unless it is carried out by the owner of the animals with semen already on the holding or delivered directly by an insemination centre;

fairs, markets, shows or other gatherings of susceptible animals, including collection and distribution, will be prohibited;

hunting will be prohibited;

manure, litter and slurry must not be moved out of a protection zone;

milk and milk products in the protection zone should be dealt with according to the appendix 3 (Code of practice for milk collection, utilisation and recording);

the following general advice applies to activities in a protection zone:

visits to farmers must be restricted to what is absolutely essential and then be subject to disinfection routines.

Persons from rural parts of a protection zone should not go on to land where there is livestock.

Representatives of commercial firms should be urged to stay away from farms in protection zones.

Meetings of farmers or farm workers or any other persons who have contact with susceptible animals should not be held in the protection zone.

In protection zones walking, fishing or gathering of caper, mushrooms, snails etc, should be strongly discouraged on farm land or land to which stock have access.

Farmers in the infected areas should be asked to keep away from markets being held in clean areas.

No movements of susceptible animals to the veterinary clinic are allowed. The veterinary surgeon should be advised to visit the farm premises.

### 6.3 Duration of controls in the protection zone

The controls in the protection zone will remain in place at least until 15 days after the killing of all susceptible animals on the infected holding, disposal of the carcasses and completion of the preliminary cleaning and disinfection operations. The zone will remain part of the surveillance zone and subject to the controls that apply to it for as long as they remain in place.

#### 6.4 Controls in the surveillance zone

In the surveillance zone the following measures will be carried out: a census will be made of all holdings with susceptible animals;

the movement and transport of susceptible animals on public or private roads will be prohibited unless such movement is for the purpose of taking them to pasture and has been authorised by the official veterinary service;

the transport of susceptible animals within the surveillance zone will be subject to authorisation by the official veterinary service; Licences for movement of such animals should be issued by the DVO nearest the premises of origin of the animals to be moved

the transit of susceptible animals through the surveillance zone, on main roads designated by the NDCCC, without stopping or unloading, will be permitted without prior approval;

vehicles and equipment used to transport susceptible animals, other livestock or materials which may be contaminated and which are used within the surveillance zone will not be permitted to leave the zone without first being cleaned and disinfected in accordance with procedures laid down by the official veterinary service;

any death or illness of susceptible animals on a holding within the zone will be reported to the official veterinary service so that an investigation of the possible presence of foot and mouth disease can be carried out; dead animals is not allowed to be removed within or outside the surveillance zone unless preceding official permission;

no susceptible animals may be removed from the surveillance zone during the first 15 days after the imposition of the zone;

between the 15th and 30th days after the imposition of the zone susceptible animals may be removed from the zone only to be transported, under official authorisation and supervision, directly to a slaughterhouse for emergency slaughter provided that an Official Veterinarian has clinically examined all the susceptible animals on the holding and has found no signs indicating the possible presence of foot and mouth disease;

all itinerant service for breeding-will be prohibited;

fairs, markets, shows, or other gatherings of susceptible animals will be prohibited;

If necessary hunting will be prohibited.

Milk and milk products in a surveillance zone should be dealt with according to appendix 3.

## 6.5 Duration of controls in the surveillance zone

The measures in the surveillance zone will remain in force until at least 30 days after the killing of all susceptible animals on the infected holding, the disposal of their carcasses and the completion of preliminary cleaning and disinfection operations.

When restrictions are lifted the same individuals and organisations that were notified when disease was confirmed and controls imposed will be informed that these measures are at an end.

## 6.6 Additional surveillance

If there is sufficient evidence to indicate that foot and mouth disease may have been introduced to a confirmed infected holding from other holdings, by any means whatsoever, those other holdings will be placed under official restriction and surveillance.

Movement of susceptible animals out of such a holding will be permitted only for emergency slaughter under official supervision during a 15-day period, following a clinical examination by an Official Veterinarian to confirm that the susceptible animals on the holding are free from evidence of foot and mouth disease.

Regardless of the evidence about the origin or spread of the disease, particular attention will be paid to holdings on which waste food (swill) is fed to pigs or to other susceptible animals.

Such holdings will be visited at regular intervals during the outbreak to ensure that the conditions of the authorisation to use processed waste food for the feeding of pigs are being complied with, in particular that the heat treatment of the waste food is capable of destroying the virus of foot and mouth disease, that there is no possibility of the recontamination of heat treated food by unprocessed waste food, and that susceptible animals have no possible access to untreated waste food.

Clinical inspections of all susceptible animals on such holdings will also be carried out to confirm that they are free from any signs of foot and mouth disease.

Surveillance visits to zoological collections within the protection zone to inspect susceptible species will also be carried out. Such visits should involve the appropriate zoo staff, in particular the veterinarian, bearing in mind that some of the animals are likely to require sedation prior to examination.

# 7. REPOPULATION OF THE INFECTED HOLDING

## 7.1 The timing of repopulation

The reproduction of susceptible animals to the holding will not be permitted until at least 30 days after the completion of final cleaning and disinfecting and following a final satisfactory inspection by the Official Veterinarian in charge of operations on the holding.

## 7.2 The method of repopulation

As soon as restrictions on the previously infected holding have been lifted susceptible animals of any species may be moved on to any part of the premises.

## **8. FOOT AND MOUTH DISEASE IN A SLAUGHTERHOUSE**

### **8.1. Suspected disease**

Foot and mouth disease may be suspected in a slaughterhouse at either ante mortem or post mortem inspection.

In either case the action taken, in imposing movement restrictions and carrying out an investigation, will be similar to the procedures laid out in sections 3 and 4 on dealing with suspected foot and mouth disease on a holding with susceptible animals.

In particular the restrictions imposed will be: the slaughter of animals will be stopped;

live animals in the lairage will be confined there and not allowed to leave the slaughterhouse;

no animals will be allowed to enter the slaughterhouse;

no carcasses or meat will be allowed to leave the slaughterhouse;

no materials or waste likely to transmit the virus of foot and mouth disease will be allowed to leave the slaughterhouse;

persons will be allowed to enter or leave the slaughterhouse only if authorized to do so by the official veterinary service;

vehicles will be allowed to enter or leave the slaughterhouse only if authorized to do so by the official veterinary service;

An investigation will be carried out with the objective of confirming or eliminating the presence of foot and mouth disease.

The investigation will include clinical examination of all susceptible animals on the premises, with special attention being given to the suspected animals or groups, the examination of post mortem material and the collection, as appropriate, of tissue, and possibly blood, samples for submission for testing to the NVL.

As in a field investigation animals may be killed if necessary for diagnostic purposes.

Simultaneously with the investigation at the slaughterhouse, an investigation will be carried out on the holding of origin of the animal or animals under suspicion at the slaughterhouse, in order to determine whether there is further evidence to support the suspicion of the presence of disease.

Epidemiological data will be collected at that time regarding movements of susceptible animals on and off the holding, along with other information which might be of assistance in the control of the outbreak in the event of foot and mouth disease being confirmed.

## 8.2 Confirmation of foot and mouth disease

When foot and mouth disease is confirmed in a slaughterhouse the official veterinary service will ensure that:

all susceptible animals in the slaughterhouse are killed without delay;

the carcasses and offal of infected or contaminated animals are traced if they have already been removed from the premises, seized and destroyed under official supervision in such a way as to avoid the risk of spreading foot and mouth disease;

cleaning and disinfection of buildings and equipment, including vehicles, in particular the vehicles that delivered the infected animals, are carried out according to instructions given by the LSFVS and under the supervision of an Official Veterinarian;

any susceptible animals subsequently carried by the vehicle that collected and delivered the infected animals are traced and placed under official restriction and surveillance;

an epidemiological enquiry is carried out in accordance with the requirements set out in sub-section 4.2;

no animals are allowed on to the premises for slaughter until at least 24 hours after the completion of cleaning and disinfecting.

Susceptible animals on the holding of origin of the infected animals-will also be killed if the epidemiological evidence supports such a course of action.